UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

SW

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,735	10/25/2001	Liat Tsoref	082/02329	9997

26418 7590 12/02/2004

REED SMITH, LLP
ATTN: PATENT RECORDS DEPARTMENT
599 LEXINGTON AVENUE, 29TH FLOOR
NEW YORK, NY 10022-7650

EXAMINER	
JAWORSKI, FRANCIS J	

ART UNIT	PAPER NUMBER
3737	

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/042,735	TSOREF ET AL.	
	Examiner	Art Unit	
	Jaworski Francis J.	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *9102004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 63* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC 35 USC103

Claims 1-25, 27-29, 36-38, 40, 46 and newly presented claim 62 are rejected under 35 U.S.C. 103(a) as obvious over Sarvazyan et al (US6468215, of record) and Wiener et al (US5483965) or in the alternative under U.S.C. 103(a) as obvious over Sarvazyan et al in view of Wiener et al and any one of Donskoy (US5895364) or Berger et al (US5806520).

Sarvazyan et al uses both longitudinal and flexural components of bone measurements to assess skeletal age. Since Wiener et al in Fig. 6 note that both velocity and attenuation measurements for cortical bone may be made using a single transducer and reflective member (paired members are only used as an expedient to obtain absolute values) it would have been obvious to effect the Sarvazyan et a expedient to obtain cortical flexural velocity and attenuation in this fashion. Alternatively, since Sarvazyan et al suggest using attenuation and velocity to assess gestational and/or developmental ages of bone, it would have been obvious to extend the Wiener et al pathology applicability to skeletal age (deficiency) measurement. In the alternative, Donskoy is cited for its col. 1 teaching that flexural measurements mean across or transverse to bone and longitudinal means along bone. Hence, Sarvazyan et al are referring to 'across as well as along bone' and are compositing the two types of measurements in their analysis by virtue of this art-supplied definition. Alternative still,

Berger et al is directed to measurement of skeletal maturation in neonates using transverse through- transmission with opposed transducer faces, see Col. 2 lines 11 – 22, whereupon it would have been obvious to adapt same for long bone scanning in Sarvazyan et al in order to accurately know the exact path distance which the ultrasound takes via this caliper style transducer separation setting.

Claims 49 - 51, 52 - 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarvazyan et al and Wiener et al, further in view of Berger et al. It would have been obvious in view of Berger et al as discussed above to practice skeletal maturation testing as an extension of bone integrity and/or density ultrasound measurement by using facing transducer pairs since this allows callipering of the distance of the acoustic transmission path over which the measurement is conducted. The rejection rationale is otherwise as stated in paras 2 and 4 of the prior Office action regarding the respective claims.

Claims 26, 30 - 35 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarvazyan et al and Wiener et al for reasons as set forth in para 4 of the aforementioned prior Office action.

Claims 41-45, 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarvazyan et al and Wiener et al alone or further in view of Donskoy or Berger et al, as argued above, further in view of applicants' specification as discussed in paras 5-

6 of the prior Office action. (Note claims 47- 48 were effectively addressed in the latter para.).

Claims 59-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarvazyan et al and Wiener et al, further in view of Berger et al as discussed against claim 49 supra, further in view of applicants' specification as discussed in paras 5-6 of the prior Office action.

Claim 58 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sarvazyan et al and Wiener et al, further in view of Berger et al as applied to claim 49 above, and further in view of Kaufman et al, for reasons set forth in para 7 of the prior Office action.

Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sarvazyan et al and Wiener et al, further in view of Antich et al (US5197475). It would have been obvious in view of the latter to form ratios of through-bone velocities in order to characterize a bone integrity parameter, understood by Berger et al to include skeletal maturing akin to parameters such as assessed in Antich et al.

Response to Amendment Arguments

Applicants arguments that flexural and longitudinal pertain to the directions in which the bone is set to vibrating and not necessarily to the directions or locations of ultrasound measurements of that vibration has resulted in the addition of Wiener et al to the argument in order to emphasize that transverse reflective measurements across the bone were accepted for determining velocity and attenuation within the bone, whereupon the Examiner is asserting that it would have been obvious to perform cortical velocity /attenuation measurements in a transverse fashion, or in the alternative to incorporate skeletal age/gestational age (deficiency) assessment to the pathologies towards which Wiener et al are directed.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.

FJJ:fjj

11262004

Francis J Jaworski
Primary Examiner